Papers of the Archæological Institute of America.

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FROM THE SITE OF

NEANDREIA.

By JOSEPH THACHER CLARKE.

VIRUM MONUMENTA PRIORUM
ARCHÆOLOGICAL INSTITUTE OF AMERICA. 1879.

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FIG. 1.—*Present condition of the block.*

I.

This capital,—the most primitive memorial of the Greek Ionic style as yet brought to light,—was found by the writer, Sept. 24, 1882, upon the summit of Mount Chigri, in the Troad. Chigri is midway between Assos and Ilion, opposite Tenedos, and ten kilometres from the coast of the Aegean. The extensive ruins upon the site are, as will be shown, in all probability those of the ancient Neandreia. They have never been disturbed by excavations, and for more than 2,000 years this remote and precipitous height has been uninhabited. During previous surveys, in 1881 and the spring of 1882, no sculptured stones or architectural members were to be seen above the surface of the ground. But in the summer of the latter

year Turkish masons from the neighboring village of Yaïladjyq, in search of squared building-stones, had dug a shallow trench within the city enclosure, exposing a corner of this block, which escaped destruction because of its irregular shape. It was easily freed from the soil, and was afterwards removed by Mr. Frank Calvert to the farm of Akchi-Kieui (Thymbra), where it was carefully examined and drawn. Together with it were discovered various fragments of archaic terra-cotta,—portions of a leaved kyma, decorated with a dark purple and black glaze like that found upon the most ancient terra-cottas of Sicily.

The stone is a fine-grained volcanic tufa, of a light reddish-gray color, obtained from a formation occurring in various parts of the western and southern Troad. At Assos this material is employed only in the oldest works, such as the lion's head which formed one of the gargoyles of the chief temple,[1] and a scroll believed to be part of an akroterion of the same building. Tufa is never found among later remains, and thus bears the same relation to the archaic architecture of the Troad as poros does to that of the Peloponnesos and Sicily. The first Greek stone-cutters required a material more easily worked than andesite, or even marble, and made up for the roughness of the stone by priming the surface with stucco and painting it with body color.

The capital remains in a state of preservation so good, that no doubt can exist concerning any detail of the design. Some of the corners have been split off, nearly half of one of the volutes being missing; but in view of the friable nature of the tufa, and its long exposure to the weather, the sharpness of the remaining tooled edges is surprising (*fig.* 1). The building to which the capital belonged must have been a ruin twenty-two centuries ago, and the block, when found, was not protected by any great depth of earth; yet the surface has not been at all affected by a decomposition like that which has so obliterated many of the sculptures and mouldings of the harder and coarser stone used at Assos.

The excellence of the design can have resulted only from an acquaintance with many spiral prototypes; and the admirable character of the technical execution is proof of a long practice in the

[1] Now in the Boston Museum of Fine Arts: No. S. 1162. Cf. the writer's *Report on the investigations at Assos, 1881.* Boston, 1882, p. 94, pl. 12.

carving of similar details. The capitals of the later ages of Greek art are of a higher and more organic development, better serving in æsthetic respects as functional members of the columnar system; but they are rarely of better proportion, or of a more firm and graceful outline (*fig.* 2). Too much emphasis cannot be laid upon the fact,

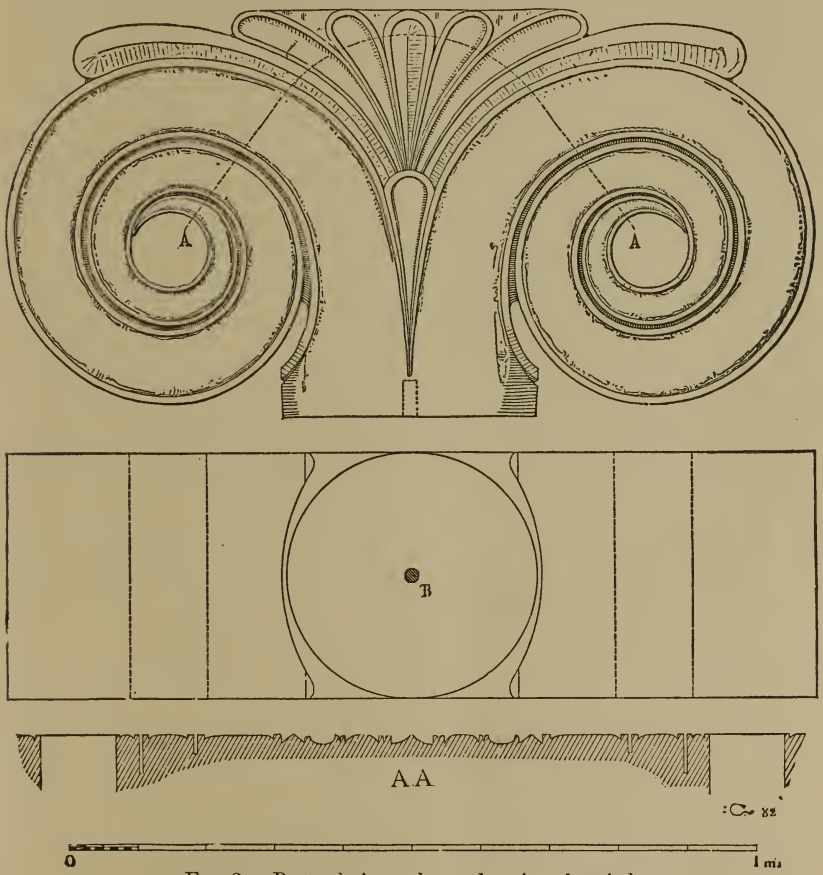

FIG. 2.—*Restored view: plan and section of capital.*

thus evident, that this capital is by no means a first experiment in the application of spiral forms to the upper member of a column, but is rather to be considered as a link in the long chain of architectural development which gradually led to the perfect forms of the capitals of the Erechtheion.

The helix is exact, and seems to have been determined by unwinding a cord, to the free end of which was attached a chisel-point, from a cylinder about 0.03m. in diameter, or perhaps,—for so great a refinement is not inconsistent with the character of the design,—from a slightly diminished cone as the evolute, fixed in the centre of the perforation. The bordering fillets of the spiral vary in width from 17mm. to 3mm., and are perfectly accurate to their very termination. The intelligent skill of the designer is especially to be seen in the manner in which the leaves of the anthemion have been profiled: their plane-angular, fluted, reeded, and concave-angular sections securing a play of light and shade such as no geometrical drawing can indicate (section AA, *fig.* 2). The incisions which separate the surfaces of the volutes are deepened as they retreat from the centre, gradually increasing from a shallow notch to a cut not less than 0.11m. deep. The spiral line thus varies in appearance from a light grey to a perfectly black shadow. The circular perforation in the centre of the volute,—the ὀφθαλμός of the Erechtheion inscription,[2]—measures 0.125m. in diameter. It probably served for the insertion of disks of some brilliant material, such as colored marble, glass, or metal. This method of decoration had been common in the Oriental prototypes from which the most characteristic features of the Ionic style were derived, and, though seldom adopted by the Greeks of a later period, was still employed in the volutes of the fully-developed Ionic capital,[3] as well as in the eyes of the parotides and guilloche mouldings. The hole is cut completely through the stone, for what purpose is not clear.

The capital, at its point of juncture with the shaft beneath, is not exactly circular in plan; the diameter from side to side being 0.01m. greater than from front to back. The summit of the shaft must consequently have been slightly elliptical. This irregularity of the stone-cutting is very remarkable in view of the perfection of the spirals and mouldings; and, as the excess is in the axis of the epistyle, it may have resulted from the capital, or more probably the shaft, having been cut from a block not sufficiently thick to allow one of the dimensions to equal the diameter determined by the

[2] II. 42. Hence termed *oculus* by Vitruvius (III. 5, 6), whose technical terms are, for the greater part, translated from the Greek.

[3] As for instance in the Erechtheion, in the great temple of Ephesos, in that of Sardis, etc.

designer. The capital was attached to the drum adjoining it by a cylindrical dowel, the hole for which (B, in plan *fig.* 2), 0.02m. in diameter and 0.055m. deep, is bored with great nicety. This pin must have served as an axis for the grinding of the capital upon the subjacent stone, during the last rubbing down of the bed surfaces. The top of the capital, which is tooled to a perfect plane, shows no traces of dowels or clamps. The reverse of the stone is, in all the main features of the design, the same as the front, but the details are somewhat less elaborate and the execution less careful. The scroll of the back is slightly rounded in profile, but has no bordering fillets, while the anthemion leaves are of simpler section, and without rims.

It is a question of much importance whether the shaft, to which the capital belonged, was placed close to a wall as a stele, or was employed as a constructive support in a building. The small diameter of the column, and, especially, the fact that one side of the capital was evidently not exposed to close inspection, seemed at first to favor the former view. After careful examination, however, the writer became convinced that the capital surmounted a tall column, probably standing *in antis* and supporting a wooden epistyle.

Notwithstanding the great projection of the volutes,—the width of which far exceeds that customary in the steles of Greece,—the bearing of the imposed weight is limited to the middle leaves of the anthemion. If the block had been the capital of a stele, intended, for instance, as a stand for inscribed stones or votive offerings, advantage would naturally have been taken of the console-like projection of the scrolls by a bearing upon the outermost leaves. This restriction of the abacus to a surface less than half as broad as the capital itself must have been determined by the consideration that, otherwise, the slightest sagging of the epistyle-beam would have crushed the sides of the volutes. From the extreme care taken to disengage the outermost leaves of the anthemion from contact with the lintel, it is evident that this precaution was held in mind.

The great projection of the volutes, as well as their shape, was derived from traditional models. The form, originally determined by the exigencies of a timbered construction, was here retained as a mere decoration, filling out the corners between the vertical support and the horizontal lintel. Thus, all the leaves of the anthemion and the backs of the volutes approach very nearly to the soffit of the epistyle, which, in the most closely related prototype (*fig.* 7), they

had actually adjoined. That the precaution was taken to restrict the weight of the entablature to a part of the capital but little larger than the upper diameter of the shaft, proves it to have formed part of a constructive framework. The lack of dowellings between this support and the imposed mass is, so far as it goes, in favor of the same conclusion. The stones of Greek steles, because of their liability to be displaced by lateral pressure, were commonly joined together by metallic fastenings cast in lead; but, for evident reasons, the abacus of a true column is not often thus connected with the lintel above it.

The most conclusive argument, however, is to be derived from the size of the block. A calculation based upon the proportions of monuments of the fully-developed Ionic style leads to the assumption, that the shaft and base belonging to the capital would, together with it, reach a height of between four and four and a half metres. Even this is considerably more than the height of the columns of many prostyle temples; and a building with columns *in antis* must necessarily be assumed to have been of modest dimensions, especially in the Troad.[4] But it is probable that the actual size of the shaft was greater than we should be led to expect from such a comparison. The columns of primitive Greek architecture were, in general, more diminished than those of the perfected styles; the ratio of the upper diameter to the lower, and to the height of the shaft, would consequently have been smaller than that assumed. The fact that the back of the capital is not treated with the same elaboration and care as the front is explained by the assumption that it was situated at some height, in a dark and narrow pronaos *in antis*, so that a good view of the inner side could not be obtained.

All these points,—the excessive projection of the volutes, resembling the original wooden prototype of the console-capital, the precautions taken to prevent the edges from being injured by a sagging of the epistyle-beam, the fragile nature of the stone, and the small diameter of the shaft,—lend weight to the supposition that the entablature was formed, not of blocks of stone, but of timbers and joists, such as those imitated in the fascias and dentils of the later Ionic style.

The width of the capital is exactly twice its height, the volutes being drawn in squares the sides of which are, as nearly as could be

[4] The Heroön of Assos, a Doric prostylos, has columns 3.6m. high.

measured without instruments of precision, 0.594m. long (1 ft. $11\frac{3}{8}$ ins.). This dimension may with much probability be supposed to equal two feet of the measure used by the designer, the result being a unit of 0.297m. ($\frac{5}{176}$ of an inch less than one English foot). The thickness of the block is 0.357m., three-fifths of its height, or three-tenths of the assumed unit. The question of the metrological importance of these dimensions, and the decimal division of the foot employed throughout the Troad in the earliest historical ages, should not be entered upon until the stone has been measured with micrometrical exactness.

The exceptional interest of our capital lies in its historical significance. It is one of the few memorials of the earliest period of architectural development among the Greeks that have not been swept away in the construction of the noble buildings erected soon after the Persian wars, or of the showy edifices of the Diadochi. The history of Neandreia will explain the circumstances which secured the preservation of those remains not easily removed from the site during ancient times. The capital cannot be ascribed to a later date than the sixth century B. C. It is one of the many experiments made by the Greeks of Asia Minor to determine the forms which, according to the tradition preserved by Pliny[5] and Vitruvius (IV. 1, 7), were first employed in connection with a peripteral plan in the primitive temple of Ephesos.

The testimony of antiquity is unanimous in the assertion, that the Ionic style, as its name signifies, was derived by the European Greeks from the eastern coast of the Aegean.[6] Discoveries of the present age have, further, made it evident, that the most characteristic features of this style passed through the earliest stages of development, neither in Greece nor in Asia Minor, but in Mesopotamia.

Before the application of the historic method to the study of the derivation of architectural forms, the determination of the influences which led to the adoption of the Ionic details was nothing but hope-

[5] Pliny's words (XXXVI. 56), *in Ephesia Dianae aede primum columnis spirae subditae et capitula addita,* can only be referred to capitals, as well as to bases, of the Ionic style.

[6] Nothing can be more at fault than Boetticher's statement (*Tektonik der Hellenen.* Berlin, 1874, second edition, vol. I. p. 165) that the Ionic style originated in Attica. The entire position of this remarkable work in regard to questions of architectural history is a warning against the misleading influence of æsthetic theories.

less conjecture. It is not long since, that scholars literally believed, or at all events seriously considered, the explanation of the origin of the style given by Vitruvius (IV. 1, 7), who relates that the Ionic column imitated the proportions of a woman,—the volutes of the capital representing the curled locks of hair; the flutes and fillets of the shaft, the folds of the wide draperies; and the base, the sandals. Thiersch,[7] who occupied a position of the highest eminence among classical scholars during the first half of the present century, gave this picture a touch of reality by his identification of the Ionic woman as a priestess with curled tainias tied about her ears. Whatever may be the truth of the Vitruvian simile, as characterizing the lightness and grace of the Ionic in comparison with the virile proportions of the Doric, modern writers, in following the example of the Roman *maestro muratore*, have not restricted their comparisons to such pretty themes.

Winckelmann[8] suggested that coiled snakes may have served as models for the volutes. Stackelberg[9] argued that the twisted horns of rams, suspended on the walls of primitive sanctuaries, or on the corners of altars, were imitated by the original designer of the Ionic capital. This idea was elaborated by Raoul-Rochette,[10] and particularly by Carelli,[11] passing into the text-books through K. O. Mueller.[12] Wolff[13] believed that the bark of trees, placed upon the top of the Doric echinos "before it had an abacus," by curling round the block had provided the starting point for the helix; while Hahn[14] took the spirals of marine shells as his model. Among the advocates of such absurd prototypes we may note no less an authority than

[7] F. W. Thiersch, *Ueber die Epochen der bildenden Kunst unter den Griechen.* (Second edition) Halberstadt, 1829.

[8] J. J. Winckelmann, *Versuch einer Allegorie, besonders fuer die Kunst.* Dresden, 1766.

[9] O. M. von Stackelberg, *Der Apollotempel zu Bassae.* Frankfurt am Main, 1826.

[10] D. Raoul-Rochette, *Monuments inédits d'Antiquité.* Paris, 1834.

[11] F. Carellius, *Dissertazione esegetica intorno all' origine ed al sistema della sacra architettura presso i Greci.* Napoli, 1831.

[12] K. O. Mueller, *Handbuch der Archaeologie der Kunst.* (Third edition) Stuttgart, 1878, 54, 3.

[13] J. H. Wolff, *Aesthetik der Baukunst.* Leipzig, 1834. This explanation has been reiterated, during the past year, by H. Jennings, *Phallicism, celestial and terrestrial, heathen and Christian.* London, 1884.

[14] G. von Hahn, *Motive der Ionischen Saeule.* Wien, 1862.

Viollet-le-Duc,[15] who conceived the Ionic volute to have been copied from curled shavings left by the primitive carpenters upon the sides of their wooden posts, illustrating this tasteless theory by a cut that shows forms which wood could not assume under any treatment. Even less satisfactory are those conceptions of an idealized spring, taking the shape of an elastic cushion, which, placed upon the Doric capital in the direction of the epistyle, is supposed to have been squeezed out by the superimposed weight of the entablature so as to curl again around the edges of the echinos. Chief among the professors of this view is Guhl.[16] This list might be greatly extended. Marini [17] gives the names of no less than twenty-six writers upon the Ionic capital previous to the publication of his own work in 1825. Some of the early treatises, such as those of Selva [18] and De Rossi,[19] display an ingenuity and a learning worthy of a better cause.

All these labored explanations of the significance and derivation of the Ionic capital have fallen to the ground,—all this misdirected antiquarianism has become a fit subject for ridicule,—upon the recognition of the fact that a capital of anthemions and volutes, essentially of the same character as that of the Ionic style, was customary in Mesopotamia for centuries previous to the development of Greek architecture, and is to be traced through Kappadokia, Phrygia, and Phœnicia, to the coast of Asia Minor occupied by the Hellenes. A great variety of terminal ornaments were formed by the designers of Assyria in imitation of the radial leaves of the palmetto. The ends of quivers, the plumes of horses' trappings, and other unweighted tips, appear of precisely the same shape as the conventional representations of palm-trees upon Mesopotamian reliefs. When these palmettos were so bound together as to form the so-called Tree of Life, or such branches of flowers as are held by certain deities, the ends of the connecting ribbons or the bracts were curled at the base, taking the place of the bunches of dates seen under the palm-trees of the reliefs. In architectural details this form was adopted, almost without change, for the apex of steles. Among the ruins of the palace

[15] E. E. Viollet-le-Duc, *Entretiens sur l'architecture.* Paris, 1858–72. Fig. 6.

[16] E. Guhl, *Versuch ueber das Ionische Kapitael.* Berlin, 1845.

[17] L. Marini, *Sul ritrovamento da me fatto dell' metodo di descrivere la voluta Ionica Vitruviana,* in the *Atti dell'Accademia Romana di Archeologia.* Roma, 1825, vol. II.

[18] G. Selva, *Dissertazione sulla voluta Ionica.* Padova, 1814.

[19] G. de Rossi, *Esercitazione sulla voluta del capitello Ionico.* Firenze, 1817.

of Khorsabad [20] a square post has been preserved, in all respects like the anthemion steles of Greece, the terminating palmetto being the same as that continually occurring upon Greek vases [21] and the antefixes of early Greek temples.

It is with the higher development of these forms, through their connection with the functional capital, that we are at present concerned. By the adoption of the palmetto as an ornament intermediate between a support and an imposed weight, the spread of the leaves was necessarily much restricted. An increased importance was thus assigned to the projections adjoining the shaft. It was natural that this should have been made in the shape of a volute. The spiral was, in every way, the form most pleasing to the early Mesopotamian decorators. Not only did the ends of bows, the hilts of swords, the carved ornaments of furniture, and the embroidered

FIG. 3.—*Ivory-carvings from the north-western palace of Nimroud.*

trimmings of robes assume this shape, but the spiral served in the pictorial art of Assyria to represent objects really of entirely different outline, such as entwined stems and leaves of plants, curls of the human hair and beard, and even ripples of water. In short, the spiral was as universal in the designs of Mesopotamia as were the triangle and the zig-zag in those of Egypt.

Out of the ornamental spirals and palmettos of Assyria were gradually developed the volutes and the anthemion of the Ionic style. Semper,—most suggestive of writers upon the architectural forms of the ancients,—displayed the extraordinary intuition for

[20] V. Place, *Ninive et l'Assyrie.* Paris, 1867–70, vol. III. pl. 34.

[21] One among many: Attic lekythos, with a representation of Orestes at the tomb of Agamemnon, from the collection of Count Pourtales-Gorgier, published by Raoul-Rochette in his *Monuments inédits d'Antiquité,* pl. XXXI. A.; and also by A. Maisonneuve, in his *Introduction à l'étude des vases antiques.* Paris, 1817, pl. XXX.

which he is remarkable, when he declared the evolution of the Ionic capital to exhibit a *stufenweise Umbildung des zuerst nur eine leichte Palmette tragenden Volutenkelches in den balkenbelasteten Saeulenknauf.*[22] The capabilities of this combination for conventionalized development led to its frequent employment in the details of various architectural decorations. Several ivory-carvings from pieces of furniture, found in the north-western palace of Nimroud and now in the British Museum, clearly show the Assyrian form of this capital[23] (*fig.* 3). That marked A is not, strictly speaking, an architectural detail. A lateral connection, visible beneath one of the volutes, shows it to have formed part of such ornamental foliage as that before referred to. The palmetto is consequently predominant and of a semi-circular outline. B and C, on the other hand, show the form as adapted to a functional capital. The leaves have decreased in size and elaboration; they have become a simple anthemion, and are terminated by the straight line of an epistyle. The volutes occupy three quarters of the height; they are of more independent formation and better proportion. The horizontal lines at the base are multiplied and emphasized, forming a division between the capital and the shaft similar to the annulets of the floral columns of Egypt. The absolute similarity between these two examples proves that the shape was a definitely determined type of decoration. There is every reason to believe that these ivories are exact representations of a capital systematically employed in Assyrian architecture. They are essentially the same as the early Greek capital of Mount Chigri, from which they differ only in the imperfect spiral

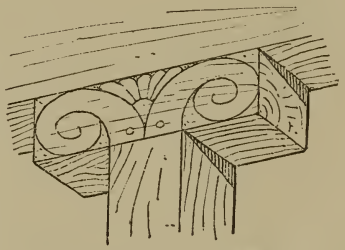

FIG. 4.—*Supposed decoration of the original wooden capital.*

[22] G. Semper, *Der Stil in den technischen und tektonischen Kuensten.* (Second edition) Muenchen, 1878. Compare, also, J. Braun (*Geschichte der Kunst*, Wiesbaden, 1856–58), "*Der Ionische Stil gehoert Niniveh, vielleicht bereits Babylon an; denn er ist der gemeinsame Stil Asiens schon in unberechenbar alter Zeit—er ist ein maechtiger Stil, dessen Sendboten wir durch ganz Kleinasien und ueber die phoenikische Kueste nach Karthago und ins innerste Afrika verfolgen koennen.*"

[23] That marked A is shown in a small and inexact vignette serving as the tail-piece to the list of illustrations in Layard, *Discoveries in Nineveh and Babylon.* London, 1853. The others have not hitherto been published.

of the volute, and in the triangle masking the convergent lines at the base.

Owing to the nature of the building-materials of Assyria, the columns of that country were of wood,[24] and but few vestiges of them have been preserved. Fragments of wooden shafts, encased in scales of bronze, have, however, been found,[25] and these suffice to give certainty to the conclusions derived from the representations of columns upon Mesopotamian reliefs.

No doubt can exist as to the origin of the spiral capital from the application of the above-described forms to the details of such wooden supports. As is the practice in every rational construction of timber, a horizontal block, projecting in the direction of the imposed beam, was placed between the support and the epistyle (*fig.* 4). This intermediate member lent itself readily to a decoration of anthemion leaves and lateral volutes. Spirals were drawn upon the projecting sides, either in color or in incised lines. Wooden columns with capitals of this kind, similar in design to the ivory-carvings before described, seem to have been universal in Assyria, and to have formed, so to speak, the only columnar order of the architecture of that country. They appear in the well-known representations of ædiculas, like that

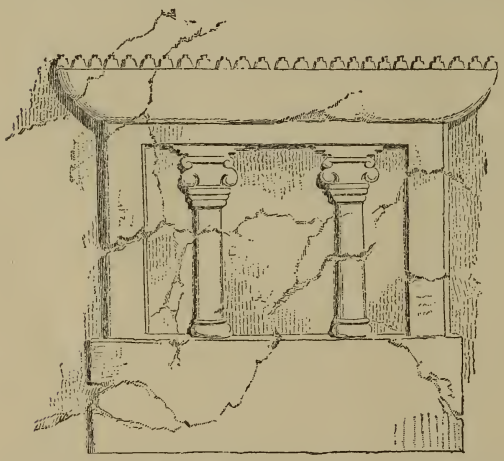

FIG. 5.—*Assyrian œdicula from a relief. Khorsabad.*

[24] Layard's workmen kindled their watch-fires with the timbers employed nearly three thousand years ago in the construction of the palaces of the Assyrian kings. Strabo (739), in an interesting passage relating to the buildings of Babylon, remarks that both beams and columns were made of the trunks of palm-trees, the latter, in the dwellings of the poorer classes, being wound around with twisted wisps of straw, coated with stucco and painted. A more monumental method of this revetment, referred to in Note 25, imitated the scales of the palm-tree in sheets of bronze.

[25] A cylindrical column of cedar wood was found and published by Place, *Ninive*, vol. I. p. 120, and vol. III. pl. 73.

standing in a royal park, upon a relief from the northern palace of Koyundjik,[26] and that on the bank of a river, from Khorsabad[27] (*fig.* 5). The fact, that the spirals are, in these instances, so doubled that four volutes appear between the shaft and the epistyle, does not affect the fundamental character of the capital, this duplication being due to the adoption of two transverse blocks of wood, instead of one.

Even more exact information concerning the appearance of the Mesopotamian capital is to be obtained from the Sippara stone, dating from about 900 B. C., now in the British Museum. Upon it is shown one side of a tabernacle under which a deity sits enthroned, and it is believed by Assyriologists that the artist has here imitated details of the chief sanctuary of Sippara. The column is represented with the greatest care. The slender shaft, evidently of wood, appears to be covered, in imitation of the bark of a palm-tree, with scales like those discovered by Place, and the capital is of a spiral form, very similar to the ivory-carvings (*fig.* 6). The volutes spring from the shaft, from which they are separated by three annulets. They bear a bud of semi-circular outline, of the same general form as the anthemion, and precisely like that of a Phœnician capital found in Kypros (*fig.* 7), this abbreviation of the palmetto having been rendered necessary by the cramped space between the scrolls, which did not allow an indication of the separate leaves. The appearance of these details upon the base, as well as upon the capital, of the Sippara column is the clearest possible evidence of the timbered construction: the intermediate block of carved wood being as much needed between the base of the post and the sill, as between its summit and the epistyle beam. The adoption of forms originally thus determined does not, of course, disprove the assumption of Perrot,[28] that the capital of

FIG. 6.—*Upper part of a Babylonian column from the Sippara stone.*

[26] A. H. Layard, *Nineveh and its Remains.* London, 1849, vol. II. Published also in G. Rawlinson, *The Five Great Monarchies of the Ancient Eastern World.* (Second edition) London, 1871, vol. I.; and in many other text-books.

[27] Botta et Flandin, *Monuments de Ninive.* Paris, 1849–50, pl. 114. The illustration is taken from this work.

[28] Perrot et Chipiez, *Histoire de l'Art dans l'Antiquité.* Vol. II. *Assyrie.* Paris, 1883. The author, however, certainly goes too far when, in the subsequent volume of the

Sippara was itself executed in sheet bronze, either soldered or beaten to shape. The prototype,—the member to which the helix and anthemion were first applied as a decoration,—was certainly of wood.

The forms of the baluster, from its first appearance until the present day,—during well-nigh three thousand years,—have never overcome the one-sidedness resulting from this original timbered construction. Contrary to the Doric and Corinthian capitals of the ancients, to the trapeze-shaped capital of the Byzantines, and to the cube capital of the Romanic style, the Ionic volutes, like the consoles of such Indian piers as those of the grotto of Ajanta, are chiefly developed in the direction of the epistyle. When we, today, employ the spiral capital,—whether placing the volutes vertically, like those of Pompeii, or horizontally, according to Vignola's textbook of the Renaissance,—we make use of forms which can be traced back to the details of Mesopotamian ornament: in the same way that so many of the words which we utter are derived, through many transformations, from the primitive speech of our Indo-European ancestors.

Long before the Greeks had built in the Ionic style,—while the stone walls of the primitive fanes of Hellas still supported the beams imitated in the Doric entablature,—the races inhabiting the plateaus of Kappadokia, Lykaonia, and Phrygia, in Asia Minor, had derived the chief features of their architecture from Mesopotamia. The spiral capital of Assyria appears in Kappadokia in a city probably destroyed as early as the time of Kroisos;[29] the Assyrian palmetto has recently been found as the termination of a column in the great necropolis of ancient Phrygia;[30] and the celebrated tombs of Lykia, especially those of Antiphellos, Myra, and Telmessos, exhibit, together with

history, he assumes that the form of the volutes was suggested by a sphyrelaton model.

[29] Identified with Pterion in G. Perrot, *Exploration archéologique de la Galatie et de la Bithynie, d'une partie de la Mysie, de la Cappadoce et du Pont; exécutée en 1861.* Paris, 1862–72. Compare a general view of the Ionic style given by the same author in an essay on *l'Art de l'Asie Mineure, ses origines, son influence,* reprinted from vol. XXV. of the Revue Archéologique in his *Mémoires d'Archéologie, d'Épigraphie et d'Histoire* (Paris, 1875); and in his short note *Sur l'origine de l'Ordre ionique,* in the Bulletin de la Société Nationale des Antiquaires de France, année 1871.

[30] W. M. Ramsay, *Some Phrygian Monuments.* Reprinted from the Journal of Hellenic studies, 1882, pl. XIX.

late and debased forms, such primitive features as to place it beyond doubt that this province was an important station in the advance of the Ionic style from Mesopotamia to the Aegean. The most striking examples of the intermediate stages of development, however, are the Phœnician works brought to light in Syria, Malta, and especially in Kypros. All the varieties of the Assyrian volute are recognizable among these remains. A capital discovered at Trapeza, near Famagusta, Kypros, now in the Louvre,[31] (*fig.* 7), is of precisely the same type as that represented by the ivories of Nimroud, and the capital of Chigri. The clearest possible understanding of the development of the Ionic volutes is gained by a comparison of this work with the conventional decorations of Mesopotamia on the one hand, and the

FIG. 7.—*Phœnician capital found at Trapeza, Kypros.*

primitive Greek capital on the other, between which it forms a connecting link. The designers of Phœnicia, in adopting the forms of Assyrian art, served rather to perpetuate than to perfect. In architectural history the importance of this commercial people consists in their having spread abroad methods of artistic expression derived by them from older civilizations, rather than in any great progress of their own. The capital of Trapeza is an improvement upon the Assyrian model, in that the volutes occupy the entire height between

[31] Perrot et Chipiez, *Histoire de l'Art dans l'Antiquité.* Vol. III. *Phénicie-Chypre.* Paris, 1885. The illustration is taken from this work. The height of this capital is 0.75, the thickness 0.30, the length of the abacus 1.22m.

the abacus and the annulets, and approach more closely to the true curve of the helix. But in other respects the changes are few and by no means advantageous. The square plan of the original wooden post has been retained, together with the broad annulets and the triangle of hard lines, which are connected with the base of the volutes in a most inorganic fashion. The high abacus of long and narrow plan, borrowed from the capitals of another style, restricts the development of the spiral projections and cramps the anthemion to a mere knop, of still less importance than that of the Sippara capital.

Even before the discovery of the capital from Mount Chigri, the representations of Ionic details upon the most ancient Greek vases made it evident that the primitive form of this member must have had a much greater projection than that customary in the perfected examples, and that the volutes did not lie upon an echinos moulding, but grew directly from the shaft, bearing between them an anthemion.

FIG. 8.—*Ionic capital from an archaic vase.*

An archaic amphora from Volcei, now in the British Museum,[32] clearly shows this formation (*fig.* 8). The painted and incised outline upon this vase might be a direct imitation of such a capital as that now brought to light, with which it agrees even in proportions. Another archaic vase of the same collection (No. 480) shows a very similar capital. The architectural details of such paintings were

[32] The painting on this vase is published by E. Gerhard (*Auserlesene griechische Vasenbilder*. Berlin, 1839–58, vol. IV. taf. CCXLI) but without sufficient accuracy for architectural comparison. Capitals of the kind are by no means uncommon: compare F. Inghirami, *Pitture di Vasi*. Firenze, 1852–56. Vol. III. Tav. 384.

In rare instances volute capitals of primitive form were executed in relief. One of the most remarkable examples is the detail of terra-cotta,—possibly the handle of a large vase,—found during the excavations at Assos. Its upright scrolls and clumsy abacus are touched with white, the rest of the red clay being covered with a dull-red surface-priming. This fragment is now in the collection of antiquities from Assos, in the Boston Museum of Fine Arts, and is numbered *P.* 4121.

It is probable, also, that the heraldic sphinxes of Assos, upon the epistyle of the chief temple of that place, rest their paws upon a diminutive Ionic stele, in the same manner as the lions of the gate of Mykenai face an inverted proto-Doric column. The surface of the stone has been so obliterated by weathering that the spirals cannot be traced upon either of the reliefs; still, it is plain, from that in Boston numbered *S.* 1158, and especially from that shown by pl. 19 of the Assos Report, that the sculptor has here represented the outline of the volutes, and even of the middle anthemion, of an archaic Ionic capital.

declared by Hittorff to be *les seuls souvenirs qui nous restent d'édifices sacrés sur lesquels les notions historiques ont entièrement disparu.*[33]

The discovery here published supplies the actual archaic example hitherto wanting.

The Chigri capital shows a great improvement, even upon those works most closely related to it which have been found in the interior of Asia Minor and in Kypros. Hellenic genius, brought to bear upon this architectural member, at once manifests its superiority in technical respects. The deformed volutes of the Kypriote capital have become perfect spirals, while the anthemion leaves, as before explained, are of great subtlety of design. The disturbing triangle at the base of the volutes has been omitted; and the annulets, if still employed, are transferred to the shaft. A decided progress is noticeable in the omission of the Phœnician abacus, and the restriction of the epistyle-bearing to a small part of the capital. In this point the style has here already attained to its final perfection.

In other regards, it is still far removed from the most primitive Ionic capitals of Greece hitherto known. The excessive projection, considerably greater upon either side than the diameter of the shaft, betrays the close dependence of the capital upon the forms of a wooden construction. In striking contrast to the square termination of the Doric column, the plan of this member is so oblong that the front is more than three times as long as the side. A lateral projection so disproportionate, not only could never have originated in the stone terminations of a round shaft, but it would be difficult to believe from the drawing (*plan, fig.* 2) that the capital was executed in that material.

So one-sided a capital could only have been employed *in antis.* With the subsequent introduction of the peripteral plan it became necessary to render the proportions of front and side more nearly equal, in order to adapt the volutes to the corner column,—which always presented the chief difficulty of this style.[34] The important

[33] Hittorff et Zanth. *Architecture antique de la Sicile.* (Second publication) Paris, 1870.

[34] The assertion of Lohde (*die Architektonik der Hellenen,* Berlin, 1862; reprinted in J. M. von Mauch, *Die architektonischen Ordnungen der Griechen und Roemer.* Seventh edition, Berlin, 1875), that the forms of the Ionic style originated in connection with the peripteral and dipteral (!) plan is utterly incorrect, and would be beneath criticism, were it not that it is made in a popular text-book.

combination peculiar to the perfected Ionic capital, the conjunction of an echinos with the volutes, was one of the means chosen to effect this end. The front of the capital from Chigri is as entirely without projection, as is that of the hypothetical wooden support given in figure 4 to illustrate the first application of the helix to the termination of a column. In the Erechtheion, however, the length of the capital in proportion to its depth is found, when compared with that of Chigri, to have been reduced by very nearly one half, the ratio of the baluster to the front of the volutes being about 4 to 7.

The impossibility of allowing the epistyle to rest upon any part of such volutes as those of the Chigri capital, and the desire to emphasize the horizontal lines of the termination, led to a further change of much significance, namely, the inversion of the scroll in such a manner that the two spirals no longer proceeded from the shaft, but were connected by a horizontal band, upon the back of which rested the narrow abacus and the epistyle-beam. This arrangement is unquestionably of great antiquity, appearing upon the before-mentioned relief of Kappadokia and in archaic vase-paintings from Kypros. It was destined to wholly supersede the upright volutes. But, as in the Doric style some primitive features were retained in the antae-capitals, so, even in the latest periods of Greek architecture, the principle of the vertical volutes continued to be employed in the capitals of pilasters, as for example in those of the great temple of Miletos, and of that of Athena Polias at Priene. With this change in the position of the volutes the anthemion ceased to be a constituent member of the Ionic capital; yet so entirely had it been identified with the style, that it remained persistently in use as a subordinate decoration: appearing not only in antefixes, simas, and decorated bands, but in the inner corners of the spirals, and in the Attic necking of the capital itself. In the archaistic capital of the temple of Bassae, the anthemion even assumes its original position between the two volutes in the middle of the face.

There is but a single example known to illustrate the stages of development intervening between the capital from Chigri and those of the peripteral Ionic temples, namely, the fragmentary capital from the Heroön of Selinous, probably referable to the sixth century B. C. (*fig.* 9). Unfortunately, so little remains of this, that it is not even certain whether the volutes were vertical or horizontal; probabilities favor the assumption of the latter arrangement, but in this respect

no great weight can be attached to the restoration given by Hittorff.[35] The helix, though it has more numerous turns, is very similar in general character to that of the Chigri capital. The relative thickness of the member is, however, much greater, and it is especially remarkable that the roll, although not contracted as in all later balusters, has been decorated with a pattern of scales. Apart from the too numerous convolutions of the spiral, the most immature feature of the design is the excessive projection of the abacus, the edge of which is ornamented with an egg-and-dart moulding. From this it appears that the change in the position of the volutes led, at first, to an extension of the bearing. This was again reduced in

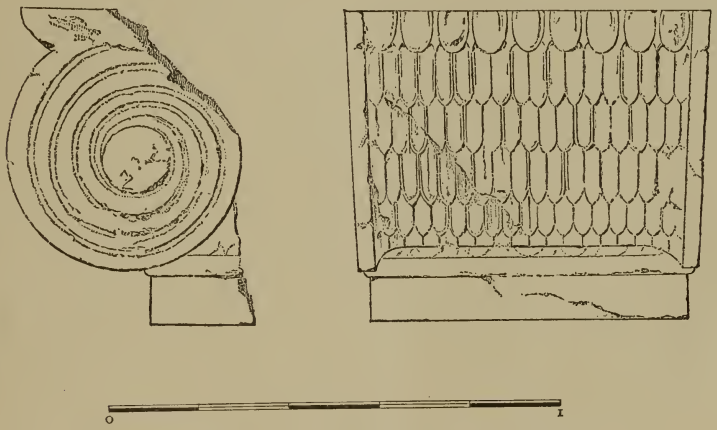

FIG. 9 —*Fragment of an archaic Ionic capital from Selinous.*

subsequent times, the front of the strip receiving the same carved ornaments as the side.

It is worthy of note, as an evidence of the tentative methods of this period of advance, that the Ionic capital was, as in the Heroön of Selinous, often employed together with the Doric entablature of triglyphs and metopes: the capital developed upon the tall palm-shafts of Asia thus being combined with the entablature derived from the wall-plates and beams of primitive Hellas. It is not strange that, among the few remains of this earliest period, but one

[35] J. I. Hittorff, *Restitution du temple d'Empédocle à Sélinonte* (Paris, 1851, pl. VI.), and the work before quoted on the ancient architecture of Sicily. The illustration is taken from the latter publication.

monument of so imperfect an arrangement should have been preserved until the present day. But the number of examples furnished by the paintings of archaic Greek vases[36] may be taken as an indication that the forms of the volute-capital had come into general use at a period when the Ionic zophoros and dentils had not been introduced into Greek architecture, or, at least, had not been developed into a system.

The same elements that formed the capitals of the Erechtheion constituted the terminations of the weak and overladen shafts of Persepolis; the spirals and palmettos of semi-barbarous Mesopotamian decorations were employed as architectural details by the designers of Persia, as well as by those of Attica. Yet the decadence evident in the architecture of Persia is contemporary with the highest development of the Ionic style among the Greeks. No better illustration is possible of the truth, that growth, and not invention, is the principle of all progress in ancient art.

The builders of the present age have to deal with a confusion of decorative forms and constructive methods similar to that which prevailed throughout the ancient world before the rise of Greek architecture. Hence, the most direct and practical service of archæology to architecture must consist in a historical elucidation of those principles of artistic selection and evolution which were followed by the Greeks in their progress toward the incomparable perfection of Attic monuments.

[36] As, for instance, the archaic vase in the British Museum, No. 480, and that published by Inghirami, before referred to. Many others have been collected by Hittorff. It may be assumed, with great probability, that the combination of the triglyph-frieze with the Ionic capital, observable in such later structures as the tomb of Theron at Akragas, the Tomb of Absalom near Jerusalem, and several rock-cut façades in the great necropolis of Kyrene, is due to a reminiscence of the primitive employment of these features upon the same building. It will be observed that these monuments of Sicily, Syria, and Northern Africa are, although late, decidedly provincial, and hence might naturally be expected to preserve barbarous and immature traits which had wholly disappeared from the art of Greece itself.

II.

Reference has already been made to the fact, that the monuments of the earliest period of architectural development among the Greeks were, with but few exceptions, lost to science through having been replaced by buildings of the more advanced styles. The preservation of so primitive a memorial as this capital is to be accounted for by the position of Mount Chigri, and, especially, by the history of the ancient city which occupied its summit. The identification of the ruins is of direct value in connection with the archæological consideration, as it supplies a *terminus ante quem* for all discoveries made upon the site thus fortunately spared.

Chigri-Dagh is formed by cliffs of granite, rising steeply to a height determined by the surveyors of the English admiralty[37] as 1648 ft., and by Virchow[38] as 499.9 met. The barometrical readings of the Assos expedition served only to verify these estimates, the difference between which is but about three metres. Chigri is thus the most prominent landmark of the Troad, north of Saqa-Kioh and west of the Skamandros.

The view from the summit is magnificent. Upon the north is the plain of Ilion, divided by the silver line of the Skamandros ; beyond are the Hellespont and the Thrakian Chersonesos. Every curve of the western coast of the Troad can be traced. The imposing ruins of Alexandreia Troas, to which town the primitive inhabitants of Chigri were removed by Antigonos, are easily discerned, and opposite to the half-submerged mole of this once populous metropolis, lies Tenedos, which, in still more ancient times, had been colonized by Tennes, son of the king of Kolonai and Neandreia (Chigri),—thereby receiving the name by which it is known even to-day. North of Imbros,

[37] Admiralty map No. 1608. *Entrance to the Dardanelles*, surveyed by Spratt, 1840.

[38] R. Virchow, *Beitraege zur Landeskunde der Troas. Aus den Abhandl. d. Kgl. Akademie der Wissenschaften zu Berlin* 1879. Berlin, 1879.

Samothrake, the mighty seat of Poseidon, rises precipitously from the blue waters of the Aegean, and far beyond the low and hazy hills of Lemnos, the setting sun outlines with wonderful distinctness the conical peak of Athos,[38a] more than one hundred and seventy-five kilometres distant: thus, the horizon is bordered by the sacred sites of the Kabeirian mysteries and the holy mountain of Eastern Christianity; while prominent in the foreground is the domed mosque of Kemaly. To the east stretch the fertile plains of the Samonion, once a territory of Chigri; beyond are the majestic heights of Ida. On the south, the violet crest of Mount Lepethymnos, in Lesbos, rises above the volcanic ridge which borders the Adramyttian gulf. The scene of the Iliad is spread out before the beholder like a map.

The uneven summit of Chigri is fortified by extensive walls, of an irregular rhomboidal plan. The greatest length of the enclosure, from east to west, may roughly be estimated as one kilometre, while its greatest width is less than one third as much.[39] The ramparts are of hewn stones, polygonal and square, dating to various periods anterior to the fourth century B. C. They are skilfully planned to profit by the natural advantages for defence of this rocky height, and, being in an exceptionally good state of preservation throughout their entire length, they are among the finest monuments of Greek military engineering in Asia Minor. The city is approached from the north-east by a grand causeway, paved with slabs of stone, and evidently

[38a] This spectacle, little less than marvellous in view of the great distance from shore to shore, has been observed by the writer on many occasions: from Chigri, from the coast between Alexandreia Troas and Lekton, and even from the much more remote summit of Mount Ida. It has been referred to by several authorities. *Clare conspicitur Athos cum coelum est serenum, ex Hellesponto et Asiatico litore, multo autem clarius ex Ida Monte*, says Vossius in the observations (*ad* lib. ii. cap. 2) attached to his edition of Mela, Hagae Comitis, 1658.

We are reminded of the saying of the ancients, repeated by many writers, that the shadow of Athos was cast upon the market-place of Lemnos at noon, or (and this was undoubtedly the original meaning of the fable) by the setting sun at the time of the summer solstice.

[39] Newton, whose work will be cited below, judges the summit to be "more than a mile long," from the fact that it took him twenty minutes to walk the distance; but it is evident that this estimate is too great. Calvert's measurement, published by Pullan and repeated, without acknowledgment, by Schliemann, gives 1900 paces as the length, and 520 paces as the breadth of the enclosure.

of great antiquity. The chief entrances to the enclosure are at the north-east and at the south, and are particularly important. They are flanked by square towers very similar to those of the main gateway at Assos, their monolithic lintels and jambs showing traces of the bolts and battens. It is not the present purpose, however, to give any adequate account of these fortifications, or of the ruins of the city itself; though it may be remarked that the capital which is the subject of this paper and the fragments of the painted terracottas which undoubtedly belonged to the same building, were found in the north-west corner of the enclosure.

The first explorer who is known to have visited the ruins of Mount Chigri is Pococke,—the earlier travellers in the Troad who penetrated beyond the port of Alexandreia Troas, such as Belon (1554) and Du Loir (1654), not having gone farther inland than the hot springs of Lidja. Pococke[40] calls the site Chigur, and identifies it with Skepsis, from the similarity of the name of that ancient town to that of the neighboring village of Eskiupjee (Eski Skupchu). De Vaugondy's ancient map of Asia Minor,[41] published fifteen years after Pococke's last volume, gives Cocyllum (Kokylion) in the position of Chigri. Kokylion is one of the towns of the Troad mentioned by Pliny[42] as deserted in his time, and its identification with Chigri rests solely upon the similarity of the names. Whether this was due to the map-maker alone, or to some traveller previous to 1760, other than Pococke, it is not possible to say. Lechevalier[43] subsequently adopted the name Kokylion from the village of Qocholobassy, to the north of Chigri, which mountain he calls Kiril-Dagh. This misleading method of identification was also practised by Choiseul,[44] whose assumption that Chigri was the site of Kenchreai is still the most generally accepted. Choiseul's authority was in this respect greatly strengthened by the endorsement of Leake[45] and

[40] R. Pococke, *A description of the East and some other countries.* London, 1743–45. Part two.

[41] *Asia Minor.* Auctore R. de Vaugondy. Paris? 1760?

[42] Pliny, v. 32. Compare also Xenophon, *Hell.* III. 1. 16.

[43] J. B. Lechevalier, *Voyage de la Troade, fait dans les années 1785 et 1786.* (Third edition) Paris, 1802.

[44] M. G. A. F. de Choiseul-Gouffier, *Voyage pittoresque de la Grèce.* Paris, 1782–1809, Vol. II.

[45] W. M. Leake, *Journal of a Tour in Asia Minor.* London, 1824.

Webb.[46] Some account of the interesting geological aspects of Chigri is given by Tchihatcheff;[47] he makes, however, the error of speaking of the formation as a trachyte. The more modern travellers who have visited the ruins are Newton,[48] whose excellent description has been referred to; Pullan,[49] who published Calvert's notes; and, within the last few years, Meyer,[50] Schliemann,[51] Virchow,[52] Diller, the geologist of the Assos expedition,[53] and Jebb.[54]

Compared with the many visitors to the neighboring towns, this is but a short list. Perhaps the neglect of Chigri may in some measure be attributed to the evil repute of this lonely mountain as the resort of brigands, Commander Spratt having had a narrow escape from one of these bands while visiting the site. Many travellers have passed directly by the foot of the hill on the road from Eziné to the ruins of Alexandreia Troas, without making the ascent.

The identification of Chigri as Kenchreai, proposed by Choiseul and favored by Leake, Webb and Virchow, is, as before mentioned,

[46] P. B. Webb, *Osservazioni intorno allo stato antico e presente dell' agro Trojano;* first published in Acerbi's *Biblioteca Italiana*, Milano, 1821; written by the author for that journal and translated under his supervision.

[47] P. Chikhachev, *Asie Mineure, description physique, statistique et archéologique de cette contrée. Quatrième partie.* Paris, 1853–69.

[48] C. T. Newton, *Travels and discoveries in the Levant.* London, 1865.

[49] R. P. Pullan, in Murray's *Handbook for travellers in Turkey in Asia.* (Fourth edition) London, 1878.

[50] E. Meyer, *Gesehichte von Troas.* Leipzig, 1877.

[51] H. Schliemann, *Ilios: Stadt und Land der Trojaner.* Leipzig, 1881. The slight notes given in the *Reise in der Troas im Mai* 1881 (Leipzig, 1881) are reprinted in *Troja.* London, 1884. Schliemann's statement (*Ilios* p. 57), that there is no accumulation of débris on Mount Chigri, is misleading. The native rock does, indeed, crop out in many parts of the fortress, notably at the south-east and north-east corners, where peaks of trachyte rise even above the fortification walls: yet, throughout the greater part of the enclosure, there is a soil of considerable depth, as is evident from the fact that the summit of the mountain serves as the pasture for a great number of horses and cattle at a season when the lower plains have been parched by the summer sun. Schliemann's further assertion, that "only here and there a late Roman potsherd and some fragments of bricks of a late date" were to be seen, is absolutely incorrect. Careful examinations of the site, on several occasions, failed to bring to light any remains more recent than of the fourth century B. C.

[52] Virchow's barometrical measurement of the height, given in the *Beitraege zur Landeskunde der Troas*, quoted above, is printed also in Schliemann's *Ilios.*

[53] J. S. Diller, *The geology of Assos*, in Clarke's *Report on the investigations at Assos*, 1881. Boston, 1882.

[54] R. C. Jebb, *A tour in the Troad:* in the *Fortnightly Review*, No. CXCVI. London, 1883.

that generally accepted.[55] This assumption can be definitely disproved. Kenchreai is of interest as one of the cities which claimed to have been the birthplace of Homer (Souidas, s. v. *Ὅμηρος*), and as the place where the great poet dwelt while familiarizing himself with the scenes of the Trojan war (Steph. Byzant. s. v. *Κεγχρέαι*). But Kenchreai existed as a citadel at a date long after Chigri must have been deserted. Georgios Pachymeres (*De Mich. Pal.* vi. 24) informs us that the emperor Michael Palaeologos confined the unfortunate Manuel in this fortress. The same writer (*De Andron. Pal.* v. 27) describes in detail the taking of Kenchreai by the Turks,

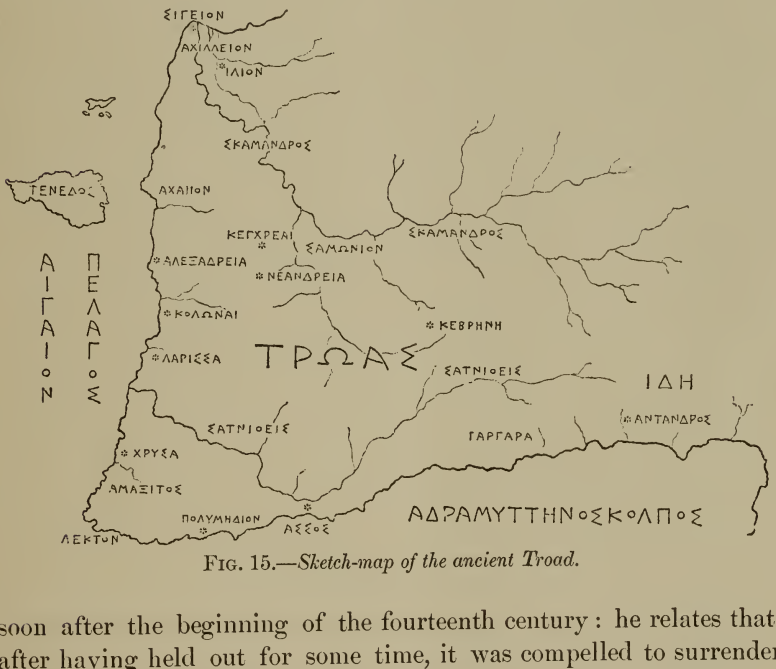

FIG. 15.—*Sketch-map of the ancient Troad.*

soon after the beginning of the fourteenth century: he relates that, after having held out for some time, it was compelled to surrender from lack of water, and was burned by the enemy. Nothing is more certain than that this citadel was not situated upon Mount Chigri, where no Byzantine remains whatever are to be met with. The writers who have advocated the identity of Kenchreai and

[55] Compare: J. A. Cramer, *A geographical and historical description of Asia Minor.* Oxford, 1832; and C. Texier, *Asie Mineure, description géographique, historique, et archéologique des provinces et des villes de la Chersonnèse d' Asie.* Paris, 1862. One of the volumes of *L' Univers.*

Chigri must either have been ignorant of the reference made to that ancient town by Pachymeres, or not well acquainted with the character of the remains upon the site. Kenchreai is undoubtedly to be identified with Kiz-Kalessi,—a citadel upon the north of Chigri, and one of the few sites of the Troad which were fortified in Byzantine times. Not having been occupied by the Turkish conquerors, it still shows traces of the fire by which it was destroyed.

The ancient atlas of Smith, and that of Kiepert, as well as the map in Mueller and Duebner's edition of Strabo, place Kolonaî upon the site of Chigri. In like manner Eduard Meyer, one of the best informed of all the travellers in the Troad, speaks of the remains as those of Kolonai. It is not strange that this commanding height should have been identified with the stronghold chosen as a retreat by the Spartan Pausanias while carrying on his treacherous negotiations with the Persians.[56] Nevertheless it is certain that Kolonai was situated much nearer to the sea than Mount Chigri. Xenophon (*Hell.* III. 1, 13 and 16) twice mentions it as a maritime town, and the testimony of Strabo is even more explicit, for he describes it as lying on the sea (589), and on the coast opposite Tenedos (604). The latter assertion is made also by Diodoros (V. 83. 1) and by Pausanias (X. 14. 2). As will be explained below, the passage of Skylax in which Kolonai is mentioned must be taken in the same sense. Among those ancient writers whose mention conveys any indication of the situation of the town, there remains only Pliny (V. 32), who says distinctly enough *intus Colone intercidit*, but whose testimony concerning the Troad is of but little value, especially in the case of those cities which, like Kolonai, were deserted more than three centuries before his time. Even the name *Κολῶναι* is characteristic of such mounds as those of the tertiary formation found on this coast of the Troad, and would be entirely inexplicable in connection with the granite mountain of Chigri.[57]

[56] Thouk. I. 131; Diod. XIV. 383; Corn. Nep., *Paus.* 3.

[57] F. Calvert,—*On the site and remains of Colonae*, in the *Archæological Journal*, vol. XVII. London, 1860,—believes the narrow summit of Beshik-Tepeh, three miles north of Eski-Stambol (Alexandreia), to be the true site of Kolonai. But the distance of this place from Strabo's Ilion is less than the one hundred and forty stadia designated by the geographer. It appears, moreover, from another passage (Strabo, 604) that Alexandreia was founded between the tract known as the Achaiion and Kolonai, and that we must consequently look for the latter town south of the great metropolis of the Diadochi.

All indications favor the identification of Mount Chigri with the ancient Neandreia. This view, first suggested by Calvert,[58] is based upon the description given by Strabo. Strabo states that the Neandreians were situated above Hamaxitos,—the position of which town is determined, by the notices of it in other passages, as close to Lekton (604), near Larissa (440) and the Sminthion (605),—on this side (i. e. to the north) of Lekton, but further inland and nearer Ilion, from which they were distant one hundred and thirty stadia.[59] Strabo states, also, that the territory of Assos and its colony Gargara was bounded by the tracts belonging to Antandros, Kebrene, Neandreia and Hamaxitos (606), towns which are thus seen to lie almost in a semi-circle around the region in question ; and further, that the plain of Samonion (now known as that of Bairamitch) belonged to Neandreia (472),—a district that would naturally be under the domination of the stronghold of Mount Chigri. Strabo moreover tells us that the inhabitants of Neandreia, together with those of many other cities of this region, were removed by Antigonos to the newly established town of Alexandreia Troas. Pliny, a little later, speaks of the site as deserted (v. 32).

A similar conclusion is to be derived from a mention of Neandreia by Xenophon (*Hell.* III. 1, 13–16). Mania, the satrapess of the province, whose chief seat was in the interior of Kebrene and Skepsis, possessed Neandreia, and extended her dominion by reducing the maritime towns of the south-western Troad, Larissa, Hamaxitos and Kolonai, which had remained in the possession of the sea-faring Greeks. On the arrival of the Spartan Derkyllidas, these three towns surrendered at once, as did, within one or two days, Neandreia, Ilion, and Kokylion, after the fall of which places Kebrene was besieged. Xenophon's enumeration of the towns can leave no doubt as to the route followed by Derkyllidas. The Spartan general must have landed at the ancient port of Lekton, and have moved into the valley of the Skamandros by the natural pass upon the north of Mount Chigri, taking the town of Neandreia upon its summit, which, it is to be observed, is the first named after leaving the sea at Kolonai. At the present day, the main road of the

[58] F. Calvert, *On the site and remains of Cebrene*, in the *Archæological Journal*, vol. XXII. London, 1865.

[59] Strabo, 606. Korai's emendation, *μεσογειότεροι δὲ* for *μεσογειότερί τε*, is self-evident.

country, by which the wine of Tenedos is carried to Eziné and Bairamitch on the Menderé, follows the same route.

Opposed to this weight of evidence, we have the statement of Skylax (p. 36) that Neandreia was situated on the sea. As at least those portions of Skylax relating to the coasts of Asia Minor are to be referred to a date anterior to that of the foundation of Alexandreia Troas and the depopulation of Neandreia, it would be natural to give entire credence to this earlier authority, and to assume that Strabo, although evidently quoting from Demetrios of Skepsis, was mistaken in his identification,—were it not that it is plain, from internal evidence, that the passage in question is, as it stands, a misstatement throughout. Skylax, whose *Periplous* was characterized even by Bentley as "one of the most corrupt books in the world," gives in his description of the Troad two lists, the one of inland towns: Sigeion, Achilleion, Achaiion, Kolonai, Larissa, Hamaxitos and Chrysa,—the other of towns on the sea: Kebrene, Skepsis, Neandreia and Pityeia. Now all those of the first list are well known to be situated upon the coast, while, of the latter list, both Kebrene and Skepsis were far inland. Pityeia does not belong to the Troad at all. It is thus plain that the classifications of the towns have been interchanged: that those of the first list were originally described as situated on the sea, those of the latter as in the interior.[60]

[60] The words of Skylax are: Καὶ ἐν τῇ ἠπείρῳ Σίγη καὶ Ἀχιλλειον καὶ Κρατῆρε Ἀχαιῶν, Κολῶναι, Λάρισσα, Ἀμαξιτὸς καὶ ἱερον Ἀπολλωνος, ἵνα Χρύσης ἱερᾶτο. Ἐντεῦθεν δὲ Αἰολὶς χώρα καλεῖται. Αἰολίδες δὲ πόλεις ἐν αὐτῇ εἰσιν ἐπὶ θαλάττῃ αἵδε Κεβρὴν, Σκῆψις, Νεάνδρεια, Πιτύεια.

The difficulty presented by this passage was evident to Mueller, and in a note to his edition of Skylax (*Geographi Graeci minores*, Parisiis, 1855, vol. I.), he inserts between αἵδε and Κεβρὴν the words: Ἄσσος, Γάργαρα, Ἀντανδρος· ἐν δὲ μεσογείᾳ αἵδε. This empiric change of the sense is actually adopted in the text of the last critical edition of Skylax, *Anonymi vulgo Scylacis Caryandensis periplum maris interni recensuit B. Fabricius* (H. T. Dietrich) Lipsiae, 1878. It by no means meets the difficulties of the case, the maritime towns still being described as inland. Were it desirable to restore the text, it would be more reasonable to simply interchange the lists, and not attempt to bring in the names of Assos, Gargara and Antandros. The towns on the Gulf of Adramyttion would not have been named before Kebrene and Neandreia.

It is surprising that so manifest a corruption should have misled writers upon ancient geography, otherwise most trustworthy. Thus, C. Mannert (*Geographie der Griechen und Roemer aus ihren Schriften dargestellt.* Leipzig, Nuernberg, Landshut, 1829–31. Third edition) and A. Forbiger (*Handbuch der alten Geographie.* Leipzig, 1842–44) refuse all credence to Strabo, on the strength of this passage of Skylax. The latter author, in his second volume, describes Neandreia as a maritime town,

Hence, the testimony of Skylax may even be claimed in support of that of Strabo.

A passage of the greatest importance in reference to Neandreia, and one to which attention has not been called by any writer upon the geography of the Troad, is given in Dictys of Krete.[61] From this we learn that the Greeks before Ilion, being harassed by attacks of the inhabitants of the neighboring country, moved their forces against the towns situated nearest to Ilion, first invading the realm of King Kyknos, the chief place of which was Neandreia. The Greeks took this citadel, and were about to destroy it by fire, but were persuaded to spare it by the prayers and tears of the inhabitants, who tendered their submission to the invaders and gave up the two sons and the daughter of King Kyknos, he himself having been slain, some time before, by Achilleus. Advancing, thereafter, beyond Neandreia, the Greeks reduced Kylla, but left Kolonai unharmed, as that town belonged to the Neandreians and was protected by the alliance which had been concluded with them.

The manuscripts of Dictys, differing among themselves, show corruptions of the names: Neandreia appearing as Meandria, Mentore or Metore, Kolonai as Corone. The first of these errors (*Meandri-*

"east of Gargara." Compare his position in Pauly (*Real-Encyclopœdie der classischen Alterthumswissenschaft*, s. v. *Neandria* vol. v. Stuttgart, 1848), where he understands Skylax to place the town on the Hellespont. This is translated, without acknowledgment, in the notice on Neandreia which, signed by Leonhard Schmitz, appears in Smith's *Dictionary of Greek and Roman Geography*, London, 1873. Forbiger's erroneous quotation of Skylax in support of the statement that Neandreia was on the Hellespont is thus perpetuated. It may be remarked that Smith not infrequently presents to his readers stolen and garbled versions of Pauly's articles.

[61] Dictys Cretensis, II. 12 and 13. The author twice refers to the realm of King Kyknos as adjoining Ilion.

The interest of the passage in question is not restricted to the geographical indications which it affords; it also furnishes an argument in favor of the belief that, in this much discussed work, there have been preserved, together with later and spurious material, some traditions of great age which are credible in the same sense as are those collected in the Homeric poems. Though the events recorded should be considered as romance rather than as history, the geography could not thus be invented. The author of the original work must have had an intimate acquaintance with the Troad, or at all events must have derived his information from sources of this character now lost to classical science. This may be well illustrated by a comparison of the work of Dictys with that of Dares, whose vapid descriptions of the Homeric heroes contain no mention of geographical details, or do not differ in these particulars from the earlier writings from which the book was compiled.

orum for *Neandriorum*, etc.) was pointed out nearly two centuries ago by the learned Perizonius.[62] He based his conviction solely upon the accounts of Kyknos given by Malala (p. 124, Oxford ed.) and Kedrenos (p. 221), who, evidently deriving their information from Dictys, assert that King Kyknos lived in Neandreia, near Ilion. It is well known that these Byzantine writers frequently quote the *ipsissima verba* of the Greek Dictys. They were in possession of the original work, which has since disappeared, and their rendering of the geographical names is hence far more worthy of confidence than that of the copies of the Latin version of Dictys, now alone accessible to us. The conjecture of Perizonius thus admits of no doubt, and this correction is adopted in the latest critical texts.

The emendation *Colonen* for *Coronen*, naturally following the Latin orthography of the name as given by Pliny (v. 32) was suggested by Fuchs.[63] The three ancient writers who differ from Dictys, Malala, and Kedrenos in the name of the capital of Kyknos, namely Diodoros (v. 83. 1), Strabo (589 and 604) and Pausanias (x. 14. 2), agree in speaking of Kolonai as his dwelling-place. It is surprising that, notwithstanding this weight of argument, the emendation has been refused by Dederich,[64] and is not even referred to by Meister;[65] their editions of Dictys, the most recent published, still read Corone, while no place of that name exists in the Troad.

The testimony of the author of the Greek original must have been founded upon traditions, oral or written, which show an accurate acquaintance with the country around Ilion. Whether these legends do or do not recount the actual events of a predatory warfare, carried on by the Achaians in the Troad, they must at least have been so framed as to appear credible to the Greeks inhabiting this remarkable country during the historic period. As it is now read, by the aid of the Byzantine plagiarists and in the light of a familiarity with the Trojan landscape, the passage describes occurrences which would naturally have taken place in such a campaign.

[62] J. Perizonius, *Dissertatio de historia belli Trojani*, etc. (Leyden?), (1701?). This essay was incorporated in the edition of Dictys published by L. Smids, Amsterdam, 1702, and in others since then.

[63] J. A. Fuchs, *De varietate fabularum Troicarum quaestiones*. Coloniae ad Rhenum, 1830. This excellent work is but very little known; the copy which has been on the shelves of the British Museum for half a century was found to be uncut.

[64] Dictys Cretensis, *Belli Trojani libri sex*. Ed. A. Dederich, Bonnae, 1833.

[65] Dictys Cretensis, *Ephemeridos belli Troiani*. Ed. F. Meister, Lipsiae, 1872.

According to the narrative of Dictys, the Greeks disembarked at the mouth of the Menderé, near the modern Koum Kaleh, and encamped in the plain. On their expedition against the country of King Kyknos they passed up the valley of the river, through the defile of Bali-Dagh, to the stronghold of Mount Chigri. After having come to terms with the inhabitants, the Greeks found but two courses open to them: to advance inland, across the plain of Bairamitch, or to turn to the south-east, towards the coast. By a further inroad they would have incurred the danger of being cut off by the enemy. Undoubtedly influenced by this consideration, the Greeks chose the latter alternative, reaching the sea south of Eski Stambol.

It is thus plain, that the legends of the Trojan cycle relating to King Kyknos originally designated both Kolonai and Neandreia as towns of his kingdom; the former as a seaport, the latter as a mountain fastness. All the episodes in the life of the hero relate to the sea, and it is probable that his residence was Kolonai, as the more trustworthy authorities assure us. The opposite island of Tenedos was colonized and named after Tennes, a son of Kyknos,[66] and the most prominent part taken by the king in the Trojan war was an attempt to prevent the Greeks from landing.[67] The citadel of Neandreia, on the other hand, must have been a stronghold and retreat; this is sufficiently indicated by the tradition given by Dictys (II. 13), that it was the abode (*nutrix*) of the children of the king. The legend which asserts Kyknos to have been the son of Poseidon and Skamandrodike[68] must doubtless be taken as significant of the sea and the river which formed the boundaries of his realm.

It is worthy of note, in this connection, that both Xenophon (*Hell.* III. 1. 16) and Strabo (472 and 606) speak of the Neandreians as a people; the latter, as has been seen, describing not the position of the town, but that of the tract which bore its name. This is explained by the fact that Neandreia, like Assos, was, at a very early period, the capital of a small independent kingdom, which continued in the memories of the inhabitants long after the entire Troad had been included in a much wider dominion.

[66] Steph. Byzant. s. v. Τένεδος; Suidas, s. v. Τενέδιος ἄνθρωπος; Cicero, *in Verrem*, act. II. 1. 19; Konon, *Narrat.* XXVIII; Plutarch, *Quaest. Graec.* 297; Servius, *Commentary to Virgil, Aen.* II. 21; and the other authors quoted in this connection.

[67] Aristotle, *Rhet.* II. 22. 12.

[68] Scholiast to Homer, *Il.* A. 38; Scholiast to Pindar, *Ol.* II. 147; Tzetzes, *ad Licoph.* 233; and Eudocia, *Viol.* p. 264; for a different account, see Hyginus, *Fab.* 157.

No further information is to be derived from the references to Neandreia made by Theopompos (Fr. 310) and Charax (Fr. 4), preserved in Stephanos of Byzantion.[69] The town was naturally included in the province of the Hellespont, and was so described. These writers are, however, to be quoted as completing the list of ancient authors who make any mention of this place.

The indications obtainable from the coins of Neandreia lend further weight to the conclusions derived from classic literature. The head of Apollon, who was evidently the chief deity of the town,[70] generally appears upon the obverse, while the symbols of the reverse suggest the advantages derived by the inhabitants of the citadel from the pastures and cultivated fields of the great Samonian Plain. A grazing horse and an ear of wheat formed the most common types,[71] and a ram occurs upon a fine coin of the fifth century, now in the British Museum.[72] It is a point particularly worthy of remark, that a coin published by Sestini[73] was re-struck with an incuse stamp ΑΛΕΞΑΝ, without doubt to facilitate the circulation of the old mintage in the city to which the inhabitants had removed. It is evident, that the Neandrians formed an influential part of the population of Alexandreia Troas, from the fact that the coins of the latter town, during the first three centuries of its existence, display the two types characteristic of the Neandreian mintage: the head of Apollon[74] and the grazing horse.

[69] Steph. Byzant. s. v. *Νεάνδρεια*. Compare also the mention s. v. *Φαντία*.

[70] It must have been with reference to this cult, and to that of the neighboring Chrysa, that Strabo (p. 618) declared Apollon to be the chief deity of the southwestern Troad. Tenedos also worshipped Apollon, following in this respect its parent city, even as early as the time of the Homeric poems (*Iliad*, I. 38, 451, etc.), in the same manner as did Alexandreia Troas in the age of the Diadochi. The especial protection granted by Apollon to the Trojans and their allies, and the prevalence of his worship among them, are striking features of the Iliad.

[71] Coins of Neandreia were found at Assos. The writer can quote, in reference to this subject, no publication more recent than that of Borrell, entitled *Unedited Greek Coins*, in *The Numismatic Chronicle*, vol. v. 1. London, 1843. Compare also T. E. Mionnet, *Description des Médailles Antiques*, vol. v. Paris, 1830.

[72] A coin of this kind is engraved in the work of Sestini which is quoted in the following note, pl. add. III. The head on the obverse, horned and bearded, is erroneously held by the author to be that of Pan.

[73] D. Sestini, *Descrizione delle medaglie Greche. Parte seconda.* Firenze, 1829.

[74] On the worship of Apollon in Alexandreia Troas see, also, the inscription from that place, published as No. 3577 of the *Corpus Inscr. Graec.*; together with Boeckh's remarks thereon.

Concerning the political history of the place, it is not here necessary to enter into detail. Its chief interest[75] attaches to the appearance of Neandreia among the towns tributary to Athens, in the well-known inscription, dating to the third quarter of the fifth century, which has been published by Rhangabé.[76] The amount of the contribution, mentioned with each occurrence of the name, permits an interesting comparison with that paid by the neighboring towns of Assos, Sigeion, Kebrene, Gargara and Lamponeia. The efforts of this confederation were not successful, but the second subjugation of the Troad by the Persians was soon followed by the Asiatic conquests of the Greeks, and by the consequent removal of the population of Neandreia to increase that of the thriving port of Alexandreia Troas.

Thus this remote fortress, deserted by the generation succeeding Alexander the Great, has remained an undisturbed ruin for twenty-two centuries. Romans, Goths, Armenians and Franks claimed the site as their own, the Byzantine Greeks were finally driven altogether from the land by the Seljukian and Ottoman Turks, and the first heed paid to the overthrown monuments of the ancient town should be credited to the Archæological Institute of a continent not dreamed of by Kalchas or Kassandra.

JOSEPH THACHER CLARKE.

[75] Brugsch, in his *Troy and Egypt* (appendix IX to Schliemann's *Ilios*, quoted above) suggests that the Trojan Kolonai is to be identified with the Kerena or Kelena mentioned in an inscription engraved upon the walls of a pylon of the temple of Medinet Abou, which gives a list of thirty-nine towns of the Asiatic coast and the neighboring islands whose contingents were defeated by Rameses III in the 13th century B. C. This theory is rendered particularly attractive by the fact, now placed almost beyond question, that both the Dardanians and the Assians fought against Rameses II only a century before, and are named in the famous poem of Pentaur. Nevertheless, a careful consideration of the context,—especially of the names of those places which are recognizable with some degree of probability,—leads the writer to believe that the town in question must have been situated at least as far south as Kypros. The statement made by Brugsch in his *Geschichte Aegyptens unter den Pharaonen* (vol. II. Leipzig, 1878), that the Kerena of the Egyptians was Kerynia, appears much more reasonable.

[76] A. Rhizos Rhankabes, *Antiquités Helléniques*. Athènes, 1842–55. Vol. I. No. 236, etc.; most recently in the *Corpus Inscr. Attic.* Vol. I. No. 226.

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